Network Troubleshooting Facts

When you have a network problem, the first place to start is to open Network and Dial-up Connections to check the status of the connection (right-click on My Network Places and choose **Properties**).

- Make sure that the network connection is enabled.
- Check the connection status. Verify that the connection is operating at the correct speed, and that packets are being sent and received.
- Use Device Manager to verify that the device is installed, recognized, and enabled.
- If everything appears to be working normally, troubleshoot the network configuration parameters and verify that the user is logging in to the network correctly.

If the connection shows that the cable is unplugged, check the status indicator lights on the network card.

- The *link* light indicates a valid connection to the network.
    - A solid green light indicates a good physical connection.
    - On some switches, an amber link light indicates a slower connection (such as 10 Mbps compared to a 100 Mbps connection which might show a green light).
- The *activity* light indicates that the connection is being used.
    - This light should flash periodically, even if you are not currently sending data over the link. This is known as a *heartbeat* or *keepalive* signal that lets the NIC know it has an active connection.
    - The light flashes more constantly as data is being sent.

The following table describes possible problems and solutions based on the network card status lights.

Light		Meaning
Link	Activity	
Unlit	Unlit	The network card does not have a connection to the network. For the link light to be lit, the computer must detect a connection to another device. Possible causes of no link light include: • Bad NIC • Faulty cable • Missing device on the other end (unplugged cable) • Bad hub or switch port • Switch or hub port is turned off
Red/Amber	Unlit	If the link light comes on but is not green, then the NIC has detected a signal but the signal is not what was expected. Possible causes include: • Faulty transceiver on the NIC or on the remote device

		• Incorrectly configured network cabling • Incompatible networking standards
Solid Green	Unlit	A solid (normally green) link light indicates a valid physical network connection. However, an Activity light that *never* lights up means that no data is being received. If this is the case, check all components and connections.
Solid Green	Flashing	This is a normal condition that indicates a valid, active connection.
Solid Green	Constantly flashing	If the activity light is constantly flashing, verify that the computer is not trying to send large files on the network. If the activity light stays lit, a network card somewhere is constantly sending out frames. This condition is known as *chattering* or *jabbering*. Replace the network card to correct the problem.

If a single computer is having problems:

1. Make sure all cables are plugged in.
2. Swap the cable with one you know to be working.
3. Plug the computer into a different hub or switch port.
4. Troubleshoot or replace the network card.

If multiple computers are having a similar problem, then the problem is likely with the hub, switch, or router. Have your network administrator check these network devices.